# Center for Educational Performance and Information (CEPI)

## **Instructions for Requesting UICs**

### January, 2017

Questions?

Email: CEPI@michigan.gov

Phone: 517.335.0505



#### Contents

Overview of the UIC Request Process	3
A Process Broken into Steps	3
Screenshots and Software Versions	3
Help and Resources	3
Single Student Request for UIC	4
Submission of a Batch File with Multiple Requests for Student UICs	9
Step 1: Download the CEPI schema file	10
Step 2: Prepare the data file (Excel)	12
Step 3: Prepare the data file (XML)	22
Step 4: Upload the XML data file to MSDS	38
Step 5: Check the file upload status	40
Step 6: Recover UIC assignment details	46

#### **Overview of the UIC Request Process**

As a preliminary step in the Michigan Student Data System (MSDS) data submission process, school authorized administrators (aka "system users") must match each student in a collection with a distinct 10-digit identifier known as the Unique Identification Code (UIC). MSDS then takes this UIC request and tries to match (or assign) UICs for each student record that a user submits.

Why do this? The UIC is a vital piece of information, because it links records across multiple school districts and time periods to a single student. In short, the UIC underpins all collection efforts and makes it possible to analyze educational outcomes for students as they progress through the school system.

For new MSDS users, this process can be intimidating and terms like "XML data files" don't help. However, with practice this process will become easier. This document serves to assist users by leading them through the UIC Request process step-by-step. Hang in there!

#### A Process Broken into Steps

There are two procedures for requesting a student UIC:

- Single request for student UIC.
- Submission of a batch file with multiple requests for student UICs.

#### **Screenshots and Software Versions**

This guide describes both UIC Request procedures. The screenshots were taken in a Windows 8 environment, and the primary applications used to replicate the Request process were Microsoft Edge (web browser) and Microsoft Excel 2016 (spreadsheets).

Previous UIC guides included screenshots of older software (e.g., Microsoft Excel 2013). However, the differences between recent guides are minor and should not prevent you from completing UIC Request if you have older versions of the Windows operating system and Microsoft Excel.

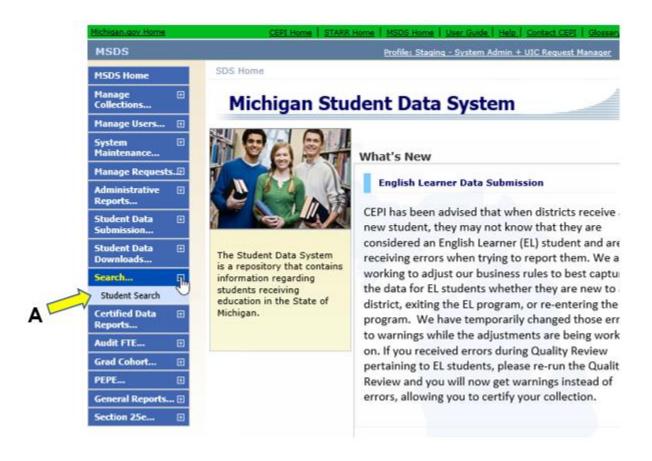
#### **Help and Resources**

If you have questions not covered by this manual and our other posted support material, please contact our customer support team at <a href="mailto:cepi@michigan.gov">cepi@michigan.gov</a>. Email allows us to better research and respond to your questions, but if email is not an option, you can call us at 517-335-0505 x3.

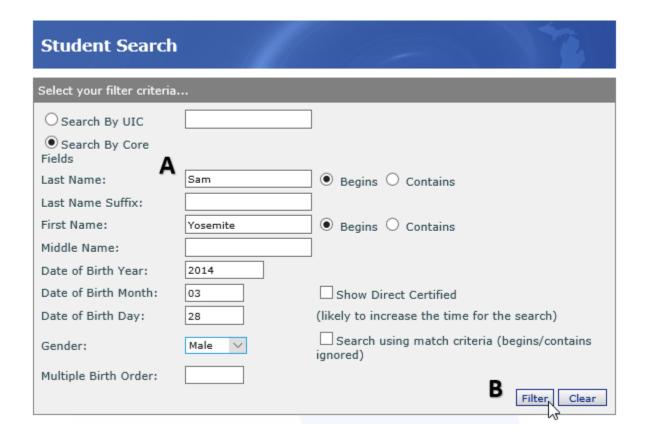
#### **Single Student Request for UIC**

To look up or create a UIC for an <u>individual</u> student, you will need to log into the Michigan Student Data System (MSDS) using your account username and password details. When you see the Home screen:

- 1. Click on the Search menu item on the left-hand side of the screen. This expands the menu.
  - A. Then click Student Search.



- 2. The Student Search window will appear.
  - A. Enter as much of the student's Personal Core information as you can into the web form.
  - B. Then click the Filter button at the bottom right.



 MSDS will run a search based upon the information you entered. If MSDS cannot find the student, it will display a message telling you it found no results – displayed below.

If you do <u>not</u> want to submit the student for UIC assignment, then click the Cancel button.

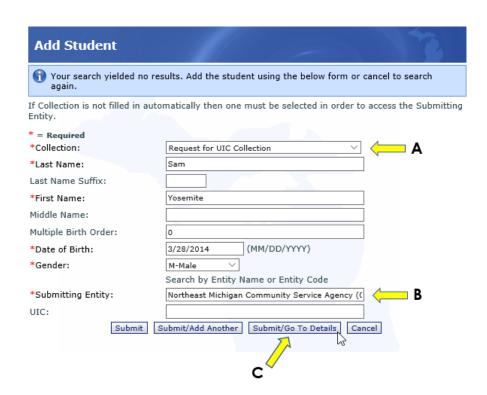
If you <u>do</u> want to submit the student for UIC assignment:

- A. Select *Request for UIC Collection* from the dropdown list as the Collection.
- B. Enter your five- or nine-digit Submitting Entity code. If you do not know your entity code, you can look it up on CEPI's Education Entity Master (EEM) web page: http://www.michigan.gov/cepi/0,4546,7-113-986 10485---,00.html

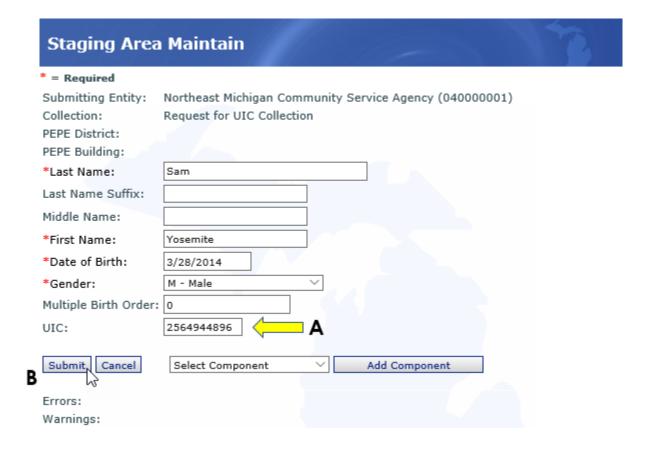
If the code is valid, MSDS will display the institution's full name.

C. Click on the Submit/Go To Details button.

# Important: you must provide information for all the required fields (denoted with an \*).



- 4. MSDS will then display the UIC assignment results for the student you have described.
  - A. Make sure you <u>write down</u> the new UIC. If you print the entire record, be careful this is Personally Identifiable Information (PII) and to maintain the student's privacy, it should only be kept in a secure location.
  - B. Click the Submit button to finalize the UIC assignment.



5. If you now search for the same student (steps 1 and 2 above), MSDS will find and report the student details.



# Submission of a Batch File with Multiple Requests for Student UICs

We'll simplify the process of submitting multiple requests by breaking it down into smaller steps:

- 1. Download the CEPI schema file
- 2. Prepare the data file (Excel)
- 3. Prepare the data file (XML)
- 4. Upload the XML file to MSDS
- 5. Check the file upload status
- 6. Recover UIC assignment details

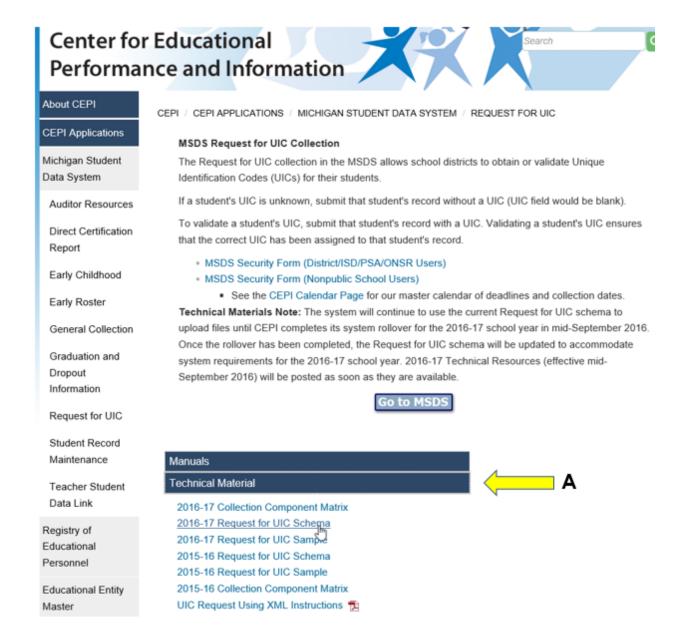
These actions are described below. Let's begin.

Last Updated: January 2017 Page **9** of **55** 

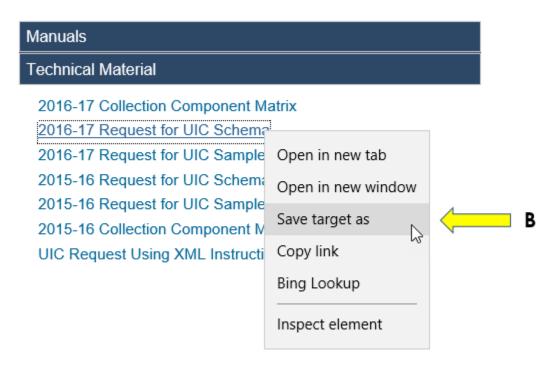
#### Step 1: Download the CEPI schema file

To initiate the UIC Request Process you need to provide student data in a very particular format. This format is the Extensible Markup Language (XML) and the template you'll need to use is called a schema file.

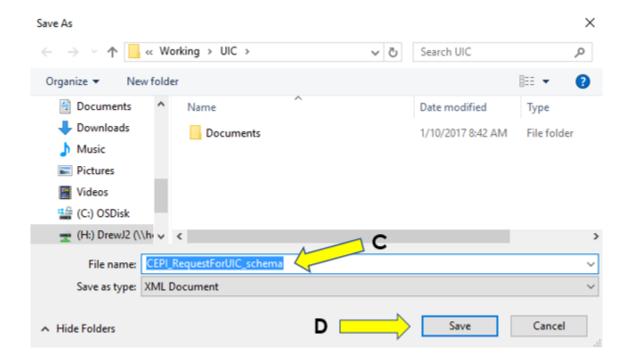
- 1. Visit the CEPI web page where you can access the XML schema file: http://www.michigan.gov/cepi/0,4546,7-113-986 50502 52376---,00.html
- 2. To obtain the schema file:
  - A. Expand the blue bar called *Technical Material* by clicking on it.



B. Right-click on 2016-17 Request for UIC Schema. Select the Save target as menu item.



- C. A window will appear. Navigate to a directory to save the schema file. Give the file a name you will remember.
- D. Click Save to finish.



#### **Step 2: Prepare the data file (Excel)**

The next step is to create a data extract from your data collection. We'll use Microsoft Excel to view the data MSDS is expecting.

3. The data elements (or columns) you must include:

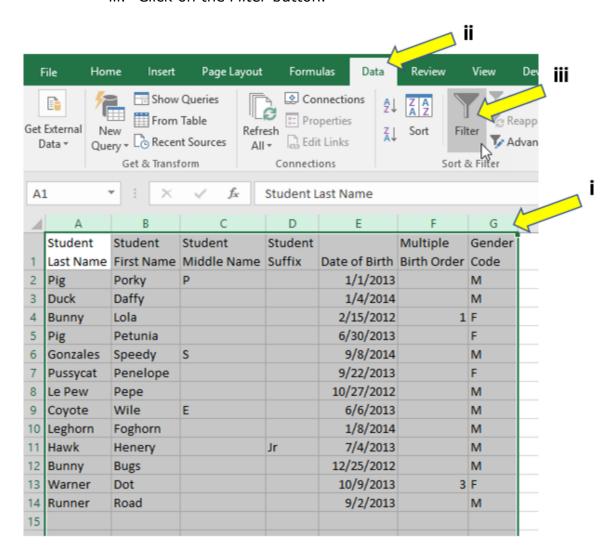
A. Student Last Name. [Required]
B. Student First Name. [Required]
C. Student Middle Initial. [Optional]
D. Student Suffix. [Optional]
E. Date of Birth. [Required]
F. Multiple Birth Order. [Optional]
G. Gender Code. [Required]

A	Α	В	С	D	E	F	G
	Student	Student	Student	Student		Multiple	Gender
1	Last Name	First Name	Middle Name	Suffix	Date of Birth	Birth Order	Code
2	Pig	Porky	P		1/1/2013		M
3	Duck	Daffy			1/4/2014		M
4	Bunny	Lola			2/15/2012	1	F
5	Pig	Petunia			6/30/2013		F
6	Gonzales	Speedy	S		9/8/2014		M
7	Pussycat	Penelope			9/22/2013		F
8	Le Pew	Pepe			10/27/2012		M
9	Coyote	Wile	E		6/6/2013		M
10	Leghorn	Foghorn			1/8/2014		M
11	Hawk	Henery		Jr	7/4/2013		M
12	Bunny	Bugs			12/25/2012		M
13	Warner	Dot			10/9/2013	3	F
14	Runner	Road			9/2/2013		M

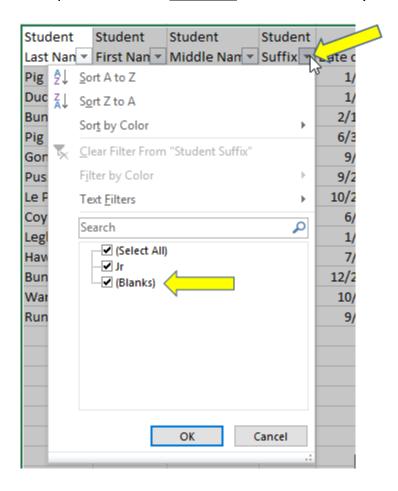
- 4. There are important rules to follow when checking your data:
  - A. The Student Last Name, Student First Name, and Student Middle Name data elements <u>may</u> include lowercase and uppercase letters (aBZz), apostrophes ('), commas (,), hyphens, and periods (.):
    - i. The total length of these fields is between 1 and 50 characters.
    - ii. They cannot include underscores (\_), numbers (0123), or special characters ( $\approx$ ).
  - B. The Gender data value <u>must</u> be *M* or *F*. The following values are invalid:
    - i. *f*, *m*, *female*, *male*, *fe*, or *ma* (lowercase or uppercase).
    - ii. Numbers such as 0, 1, 2, or 3.
    - iii. Blank.
  - C. Fields in each row <u>must</u> contain a value, except for Student Middle Initial, Student Suffix, and Multiple Birth Order (which can be blank).

To check for blanks in a field, you can use Excel's *Filter* utility found under the *DATA* tab.

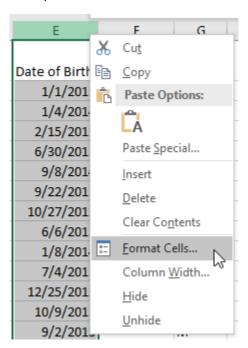
- i. Hold down the Ctrl key while clicking to select <u>all</u> the data columns.
- ii. Click on the DATA tab.
- iii. Click on the Filter button.



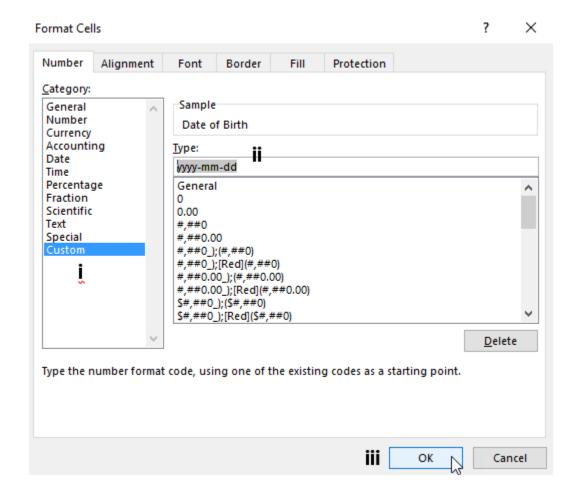
iv. Click on a column arrow box to check if there are blank values in a column. (Note: Student Suffix is allowed to be blank – it's shown below to highlight how Excel reports blank values. Required columns shouldn't show this value.)



D. Date of Birth must be formatted as *yyyy-mm-dd*. Highlight the column, right click, and select "Format Cells..."



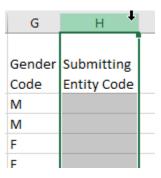
- i. In the text box that appears, select *Custom*.
- ii. Type yyyy-mm-dd.
- iii. Click OK.



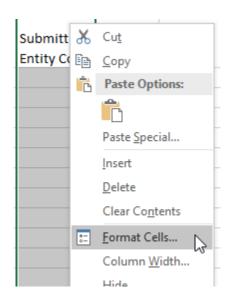
The dates should look differently now.



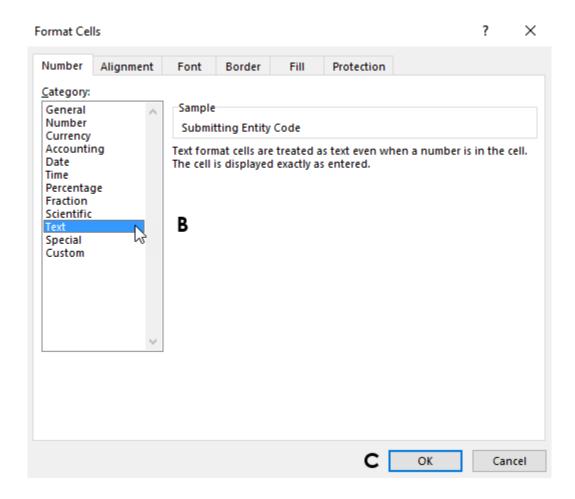
5. The data file isn't ready yet. You need to add another column. Next to the Gender Code, in the top box (H1) type *Submitting Entity Code*. Then select the column.



A. Right click and select Format Cells... to change the cells in the column.



- B. In the window that appears, select *Text*. (This will prevent Excel from automatically correcting the data to remove preceding zeroes from the entity code.)
- C. Click OK.

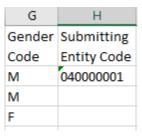


D. Enter your five- or nine-digit entity code for each row that you have data in the spreadsheet.

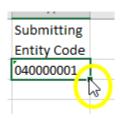
If you do not know your entity code, you can look it up on CEPI's Education Entity Master (EEM) web page:

http://www.michigan.gov/cepi/0,4546,7-113-986\_10485---,00.html

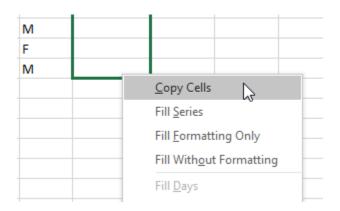
i. To enter the code, simply type or paste it into the first column cell.



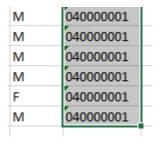
ii. To copy the code across cells, move the mouse pointer to the bottom right corner of the cell and hold down the <u>right</u> mouse button.



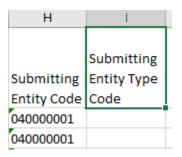
iii. Keep the right mouse button pressed down and drag the mouse down the screen. When you reach the last cell, release the button. A context menu will appear. Click *Copy Cells*.



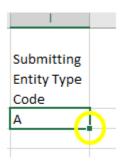
The cell in each record will now be filled with the entity code.



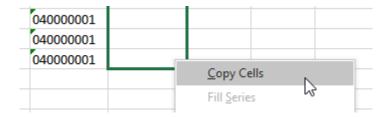
6. You have entered the code for your submitting entity, but you will now need to specify its type. In the next column in the first cell, type *Submitting Entity Type Code*.



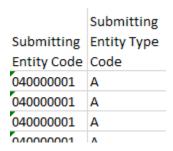
- A. If your submitting entity has a five-digit code, enter a single <u>uppercase</u> "D" in the column cells. In the example here, the submitting entity has a nine-digit code, so we need to instead enter a single <u>uppercase</u> "A". (Note: it must be uppercase "A" or "D", it cannot be "a" or "d").
  - i. Right click on the bottom right hand corner of cell.



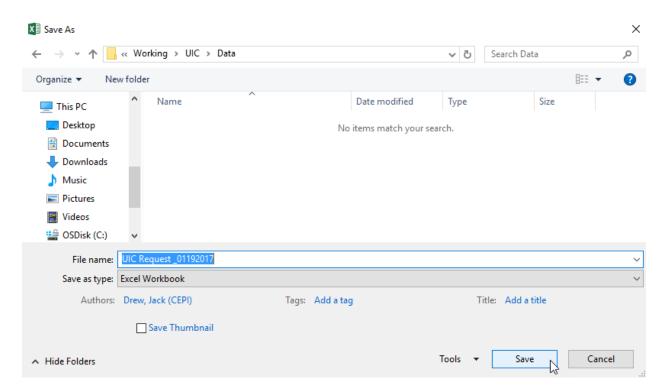
ii. Holding the button down, drag down to the last of the collection records. Then release and select Copy Cells.



The cells will now be filled with an "A".



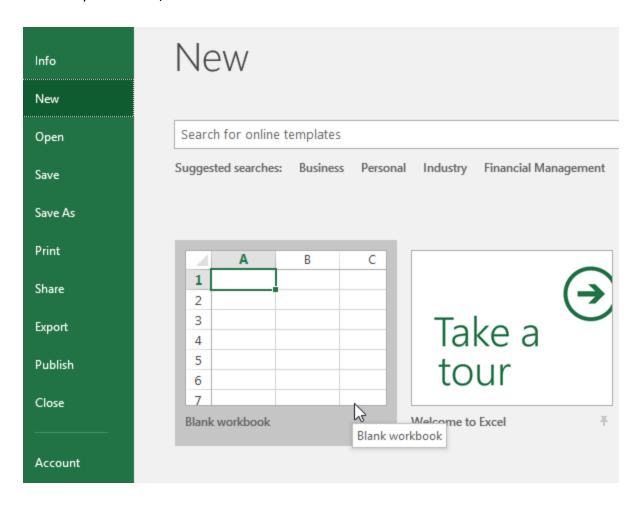
7. Lastly, save your data with as a Microsoft Excel file (with an .xls or .xlsx extension) in a secure area since it contains Personally Identifiable Information (PII).



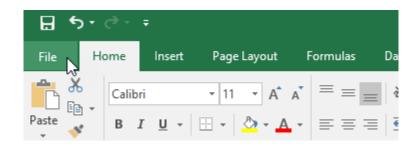
#### Step 3: Prepare the data file (XML)

This step is arguably the most difficult and confusing if you are new to uploading XML data files to MSDS. Don't panic! We will go one step at a time.

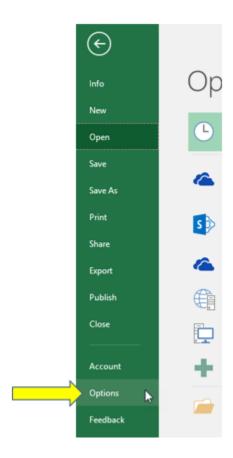
8. Open a new, blank workbook in Microsoft Excel.



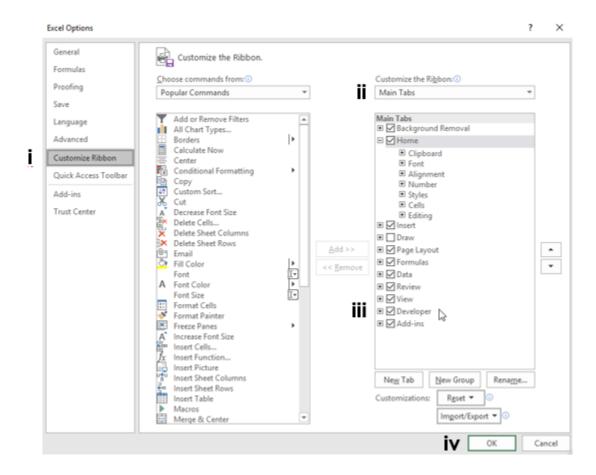
9. We will need the *DEVELOPER* tab showing. This is not a default setting, so you will need to change the Excel settings. Begin by clicking the *FILE* tab on the top menu.



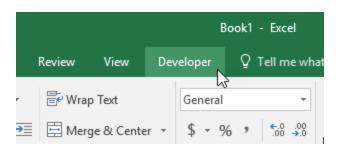
A. The next screen will display several options on the left-hand side. Click on *Options*.



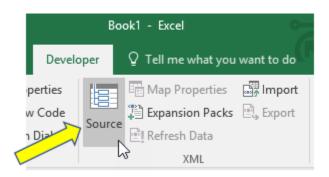
- B. The Excel Options window will appear.
  - i. Select Customize Ribbon.
  - ii. Select Main Tabs.
  - iii. Check the Developer option.
  - iv. Click OK.



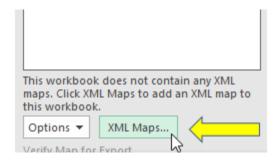
C. Look back at the menu at the top of the screen you will see the *DEVELOPER* tab. Click it.



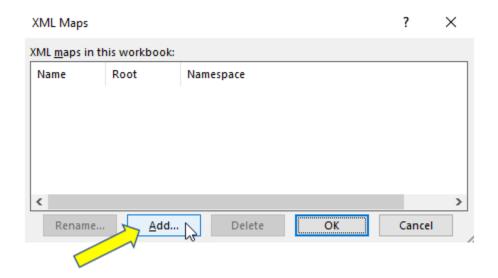
- 10. We will now use the *DEVELOPER* settings to get your student records into an XML format.
  - A. Begin by clicking on the Source icon.



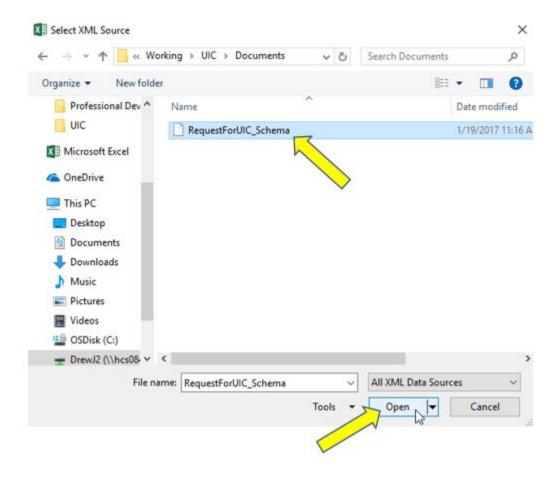
B. The XML Source pane will appear on the right-hand side of the screen. Click on the XML Maps... button near the bottom.



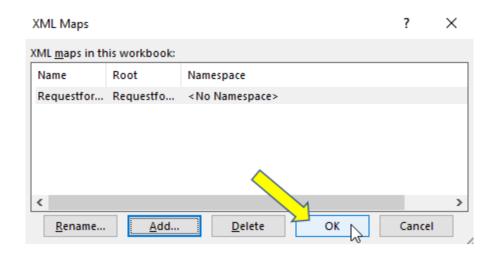
C. In the new window that appears, click Add.



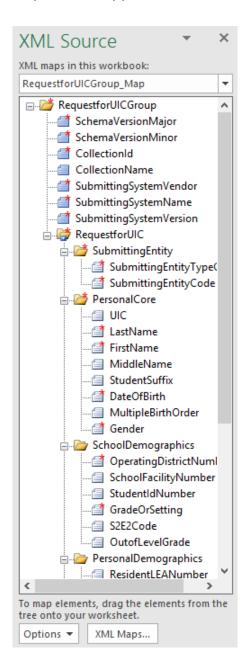
D. Navigate to the UIC Request Schema you downloaded earlier (see Step 1). Select the XML file and then click Open.



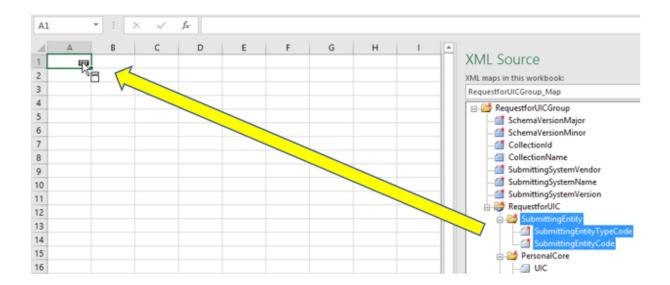
E. Then click OK.



F. The XML Source pane will appear with a list of XML elements.



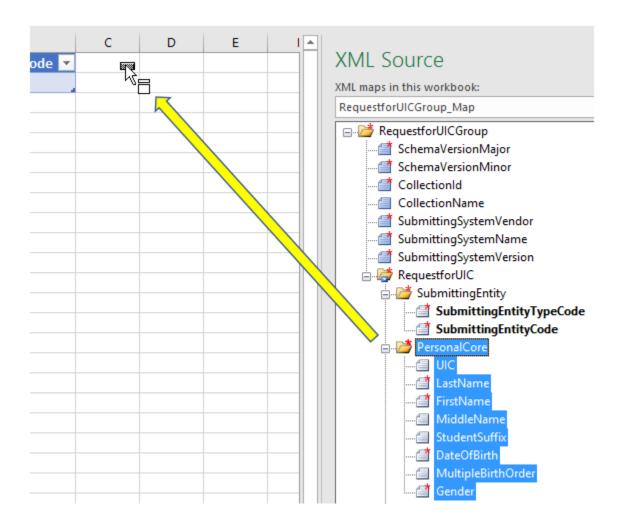
- 11. The next steps involve mapping XML data elements to the worksheet.
  - A. Click on the folder icon labelled *SubmittingEntity* in the XML Source list and drag it to cell A1.



B. Cells A1 and B1 should fill in with the text *SubmittingEntityTypeCode* for A1 and *SubmittingEntityCode* for B1. If you wish, you can expand the columns to see the column headings more fully.



C. Repeat these steps to drag the *PersonalCore* folder icon from the XML Source list into cell C1.



D. Cells C1, D1, E1, F1, G1, H1, I1, and J1 will fill with elements *UIC*, *LastName*, *FirstName*, *MiddleName*, *StudentSuffix*, *DateOfBirth*, *MultipleBirthOrder*, and *Gender* respectively.



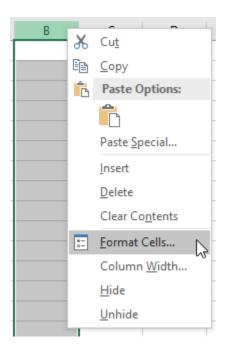
- 12. We now need to add information for the XML header.
  - A. Click on the + icon at the bottom of the page to add a worksheet.



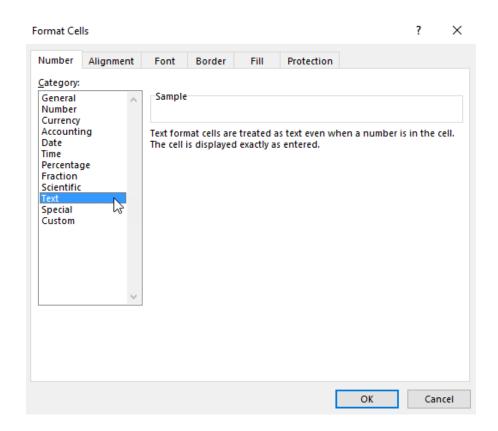
- B. Type the following information in column A, adding each item in a separate row:
  - (1) SchemaVersionMajor
  - (2) SchemaVersionMinor
  - (3) CollectionID
  - (4) CollectionName
  - (5) SubmittingSystemVendor
  - (6) SubmittingSystemName
  - (7) SubmittingSystemVersion

$\Delta$	Α
1	SchemaVersionMajor
2	SchemaVersionMinor
3	CollectionID
4	CollectionName
5	SubmittingSystemVendor
6	SubmittingSystemName
7	SubmittingSystemVersion
8	

C. Highlight column B. Then right-click to bring up the context menu. Select Format Cells...



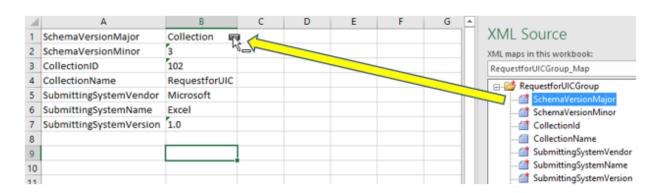
D. Next, select Text and click OK.



- E. In column B, enter the following information <u>exactly</u> so that it matches the information in column A.
  - i. Collection
  - ii. 3
  - iii. 102
  - iv. RequestforUIC
  - v. Microsoft
  - vi. Excel
  - vii. 1.0

A	A	В
1	SchemaVersionMajor	Collection
2	SchemaVersionMinor	3
3	CollectionID	102
4	CollectionName	RequestforUIC
5	SubmittingSystemVendor	Microsoft
6	SubmittingSystemName	Excel
7	SubmittingSystemVersion	1.0
8		

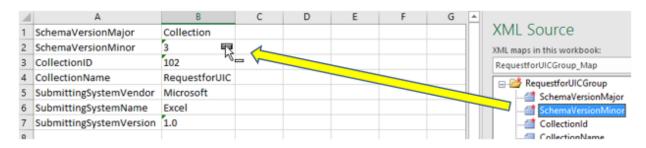
- 13. To map XML header elements, we will drag XML Source items to columns again.
  - A. Look for the *RequestforUICGroup* folder and drag the item *SchemaVersionMajor* to cell B1 where the word "Collection" appears.



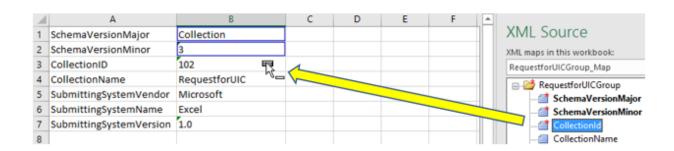
If a message box pops up and states, "The data that you are attempting to map contains formatting that is incompatible with the format specified in the worksheet," click the button marked *Match element data type*.



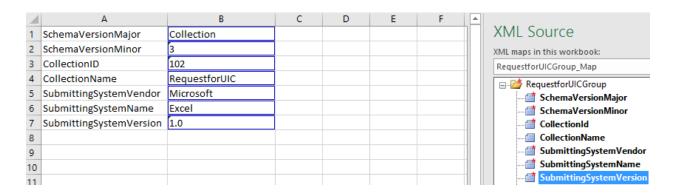
B. The next XML Source item is *SchemaVersionMinor*. Drag it from the XML Source list to cell B2.



C. Notice how the XML Source items have the same names as the text in column A. You can see *CollectionID* should go into cell B3, so drag it across.

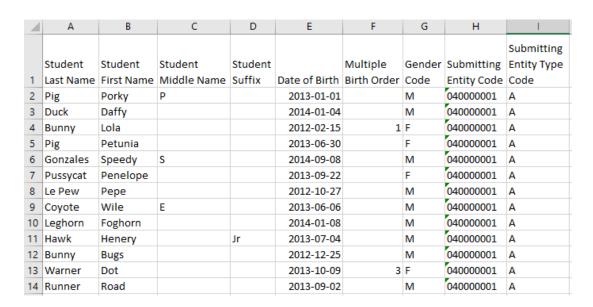


D. Drag the remaining items: *CollectionName* to cell B4, *SubmittingSystemVendor* to cell B5, *SubmittingSystemName* to cell B6, and *SubmittingSystemVersion* to cell B6.



When you have finished, the elements in column B will have a blue outline and the elements in the XML Source list will appear in a bold font.

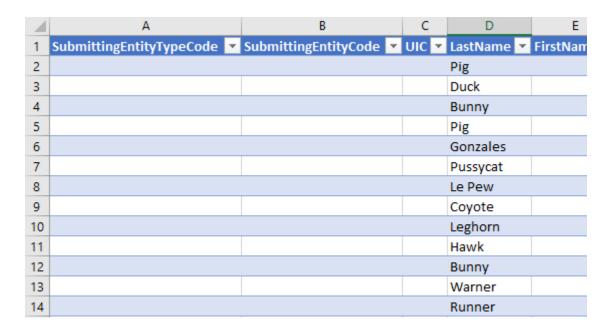
- 14. The next job is to copy the student records (see Step 2) into the mapped spreadsheet.
  - A. Open the Excel spreadsheet with the student data.



B. Highlight all the student last names, but do not include the header cell labelled "Student Last Name" with the selection.



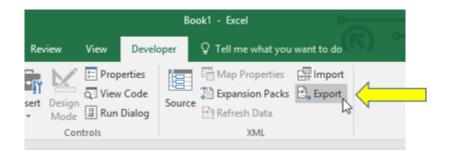
C. Copy and paste the records into the XML data file directly below cell D1 (marked "LastName") on the first worksheet.



D. Repeat this process for the remaining records. The column titled "UIC" should be left blank.

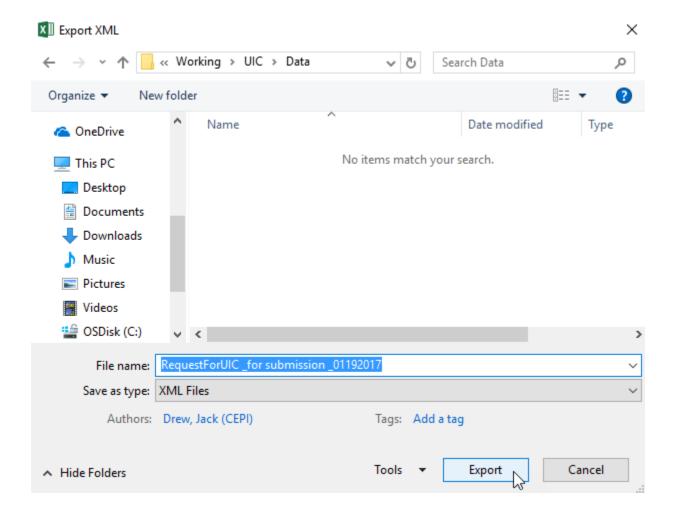


- 15. The final step is to finalize your newly created data file as an XML file.
  - A. Select the *DEVELOPER* tab on the Excel menu ribbon, then click the Export icon.



B. Save the file in a secure location, because it contains

Personally Identifiable Information (PII). Use a file name you
will remember. Ensure the Save as type is "XML Files" and then click
OK.

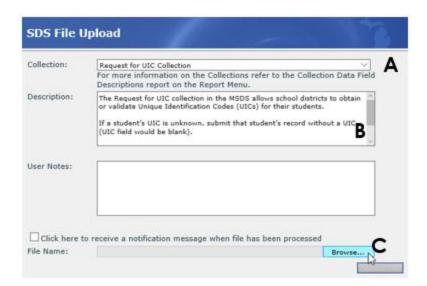


## Step 4: Upload the XML data file to MSDS

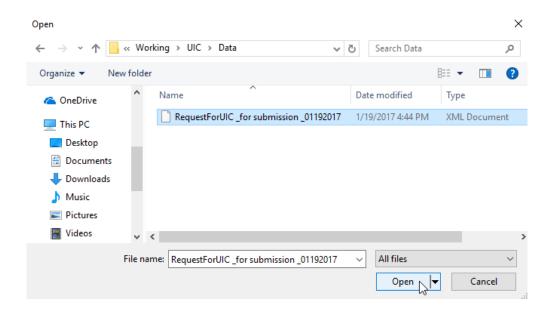
- 16. When you are ready to upload the XML file, log into MSDS.
  - A. Click on Student Data Submission... and then click the Upload File option.



- 17. The next screen will allow you to choose a data file to upload. To do this:
  - A. Select the Request for UIC Collection option from the dropdown list.
  - B. Click within the empty Description textbox to automatically populate it.
  - C. Click on the Browse button.

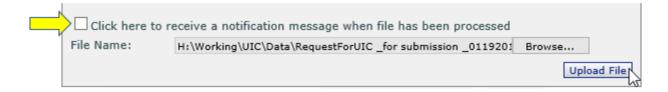


18. Another window will open. Navigate to the secure directory where you have saved the XML data file and click on it to upload. Then click Open.



19. You will return to the main file upload window. You can check the box marked, "Click here to receive a notification message when file has been processed" to receive an email telling you when the upload process has finished (optional).

Simply click on Upload File to start uploading.



20. After a few moments, MSDS will generate a message box to inform you the upload process has started. Click OK.

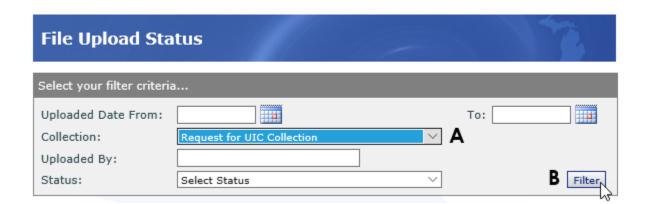


## Step 5: Check the file upload status

- 21. Once the upload process has begun, you will need to check the status.
  - A. Click back on Student Data Submission... and select *Uploaded File Status*.



- 22. The next window requires you to specify a collection.
  - A. Using the dropdown list, select Request for UIC Collection.
  - B. Then click Filter.



23. MSDS will list the details of files that have been uploaded. In the screenshot directly below, the one file displayed has a status that reads "Processing Detailed UIC Resolution".

If you see this status, it means MSDS is <u>still working</u>. You will need to be patient and wait. If you checked the option to be notified when the process is complete, you will receive an email when MSDS has finished. Otherwise, you will need to periodically click the Filter... button.



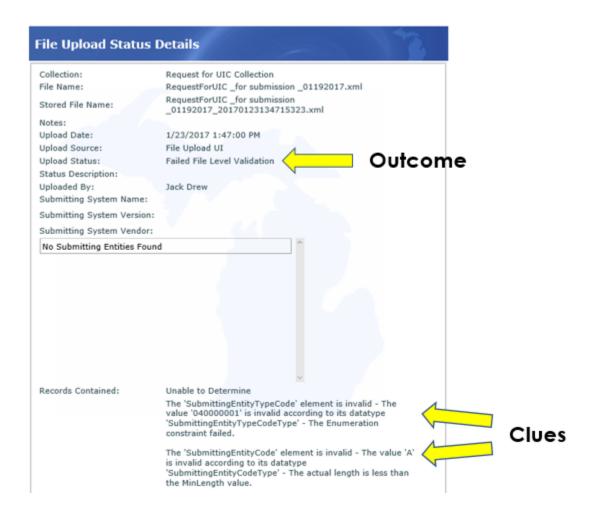
- 24. When MSDS has finished the file upload process, there will be a different file status. The next screenshot shows the results of two file uploads, each with a different status:
  - A. MSDS successfully processed the file.
  - B. The MSDS upload process failed.



25. Let's look at the failed upload (B). Click on the filename (underlined).

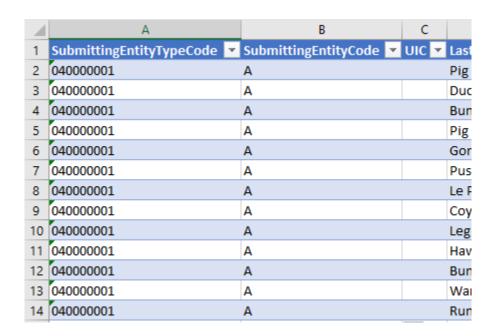


26. MSDS will present the details for the file upload. When the file failed to upload, the details look like the next screenshot. The *Upload Status* line highlights the critical outcome, while MSDS offers clues to the failure in the line marked *Records Contained*.



27. To problem shoot, we need to look at the feedback (aka "Clues"). MSDS is signaling a problem with two fields: *SubmittingEntityTypeCode* and *SubmittingEntityCode*. It's saying the data are wrong.

We now need to check the original data file in its <u>Excel</u> format. Can you spot the problem?



Answer: I copied the <u>wrong data</u> into the <u>wrong columns</u>. As you can see, Column B data ("A" is the EntityType) should be in Column A, and Column A data ("040000001" is the EntityCode) should be in Column B.

This is a simple mistake to make, but it's easily corrected. Provided you follow the instructions back in Step 2 carefully, you should be fine.

28. In contrast, MSDS will present a different window when the file upload success is successful (A). Begin by clicking on the filename (underlined).



29. MSDS will display the upload details in a separate window. The *Status Description* text and the *Count* of records resolved indicate the success.

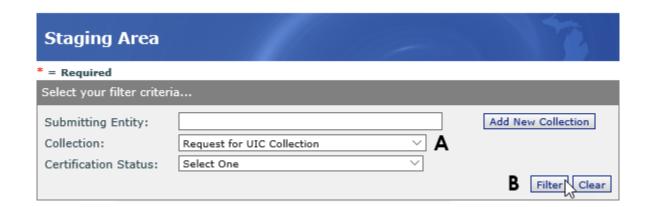


## Step 6: Recover UIC assignment details

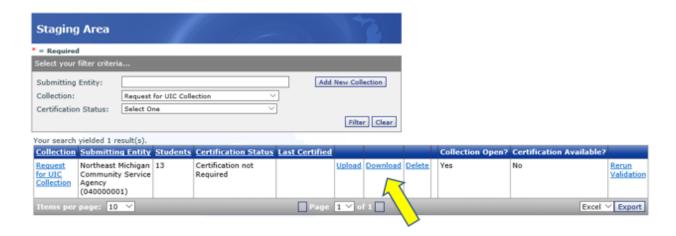
- 30. If the XML data file was successfully processed, you can access the matching results.
  - A. From the MSDS main menu click back on Student Data Submission... and select *Data Staging Area*.



31. On the following screen, select the *Request for UIC Collection* from the dropdown list. Then click Filter.



- 32. MSDS will list the file upload results. Notice the Submitting Entity number we have been using (04000001), the number of records submitted (13), and the additional options (Download and Delete).
  - A. To view the results, click Download.



33. MSDS will prompt you to begin the download process. Click the Start Download button.



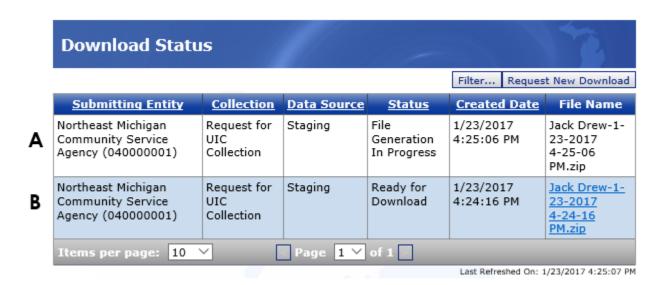
34. One more prompt will appear. To download a file with the results, click on the To Downloads button.



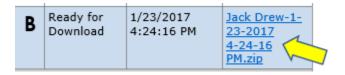
35. The new screen will list all the download results for the Submitting Entity. The most recent upload will appear at the top of the list.

In the following screenshot, there are two entries for the same file to illustrate how MSDS will present the results:

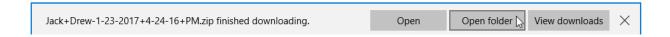
- A. The *Status* of the latest download is "File Generation in Progress" and the File Name is <u>not</u> underlined. You cannot access the results yet. Wait until the *Status* changes to read "Ready for Download".
- B. The previous download <u>is</u> ready. We know this because the *Status* reads "Ready for Download" and the *File Name* is underlined.



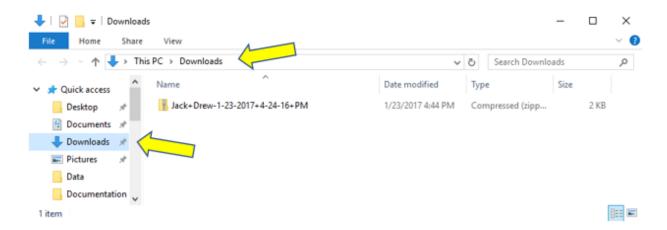
36. To download the second item (B) above, you need to click on the underlined *File Name*.



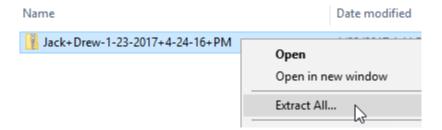
37. Your web browser (Internet Explorer, Microsoft Edge, Chrome, Mozilla Firefox) may let you view the results files automatically. In the example below, clicking the Open Folder button will open a new window.



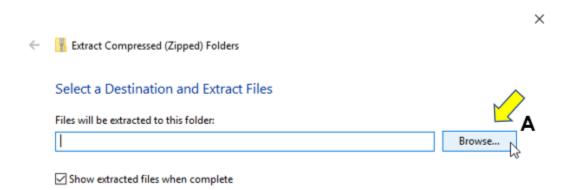
If this option is unavailable, simply use File Explorer to open a new directory window and navigate to your Downloads folder.



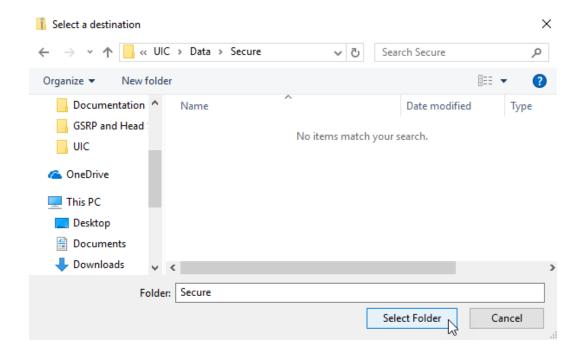
38. You will see an archived ZIP file. To open this file, right click on the file to bring up a context menu. Select *Extract All...* 



- 39. The following screen will prompt you to select a location to extract the ZIP file to.
  - A. Click the Browse button.

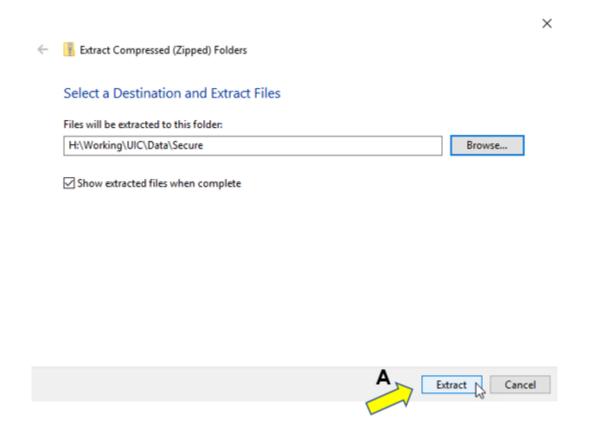


40. Navigate to a secure location (PII reminder!) and click the Select Folder button.

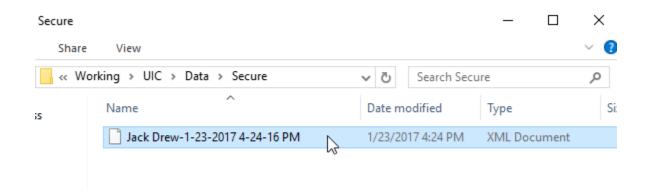


41. You return to the previous screen with the destination file path displayed.

A. Click the Extract button.



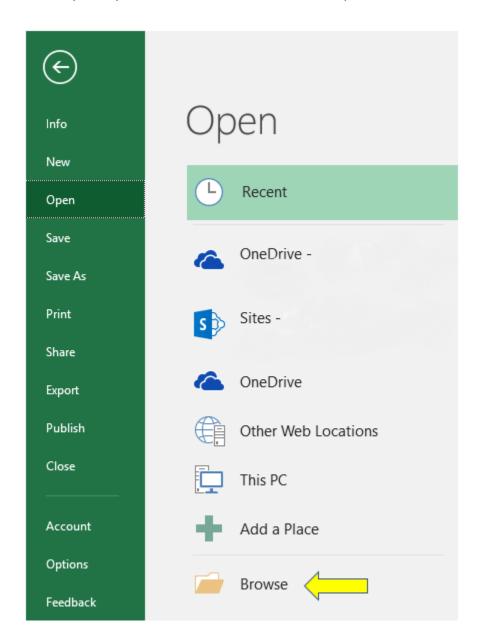
42. Next, navigate to the folder you extracted the ZIP file in. You will see a new file...



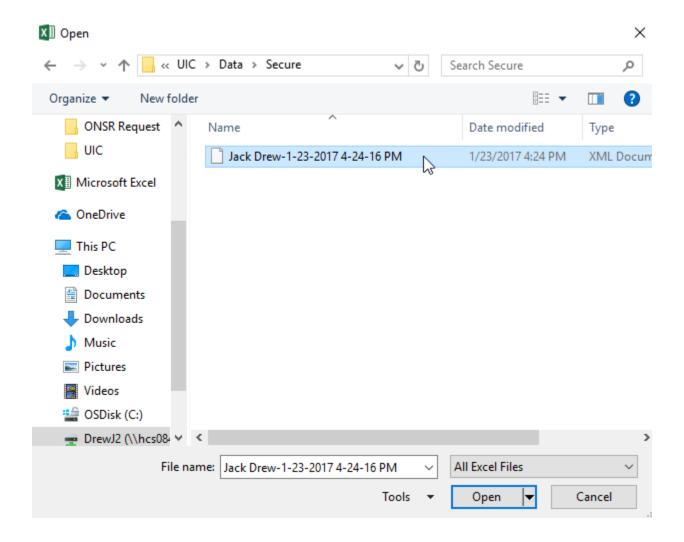
43. Start the Microsoft Excel application. Select the FILE tab...



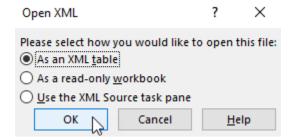
44. Select the *Open* option. Then click the Browse option...



- 45. Again, navigate to the folder you extracted the ZIP file to.
  - A. Click on the new file.
  - B. Click the Open button.



46. You will be asked how you want to view the data. The default setting ("As an XML table") is fine. Click OK.



47. When Excel opens the data, you will notice the columns have been rearranged. Don't worry. If you navigate to <u>Column J</u> you will see the UIC assignments for each student. **Keep the records safely, because this is Personally Identifiable Information (PII) and therefore <u>very sensitive!</u>** 

